

REMARKS

Claims 1-4 are pending. All claims are under examination.

Claim Objections

The objections to claims 1 and 3 in paragraph 3 of the last Office Action are traversed, but have been rendered moot by the present amendments. The Examiner is thanked for suggesting the manner in which the claims might be amended to remove the objections. The claims have been so amended.

Claim 5 has been canceled rendering moot its rejection in paragraph 4 of the last Office Action.

Issues under 35 U.S.C. § 103

The rejection of claims 1 and 3-5 as obvious over United States Patent 6,048,404 (White) in view of United States Patent 5,437,201 (Krueger) and United States Patent 5,863,789 (Komatsu) is traversed.

White, Krueger, and Komatsu all relate to the prior art headspace method and do not render obvious the claimed invention.

The claimed invention is totally different from the prior art headspace method. The present invention is characterized by:

(a) replacing an atmospheric air in a sample vessel containing a sample with inert gas; and

(b) keeping the sample contained in the sample vessel at a

temperature at which volatile constituents of the sample do not evaporate; and

(c) connecting a canister depressurized in advance to the sample vessel in this state, thereby making all the volatile constituents evaporate from the sample in a moment utilizing the difference in pressure between the sample vessel and the canister, and collecting them in the canister.

In other words, the claimed invention is characterized in that, by connecting a canister, depressurized in advance, to a sample vessel containing a sample in a state that evaporation of the volatile constituents of the sample is prevented, thereby depressurizing the sample vessel in a moment, all the volatile constituents of the sample are caused to simultaneously evaporate together irrespective of differences in volatility. These are collected without changing the quantitative relation among them so that they can be subjected to quantitative analysis.

On the other hand, the prior art headspace method is a method in which volatile constituents evaporating from a sample are collected in the headspace of a vessel containing the sample, and then those collected in the headspace are collected in a canister or the like. Thus, the extracting method according to the present invention is one wherein all the volatile constituents of the sample are placed in a state such that evaporation of the volatile constituents is prevented and are made to evaporate in a short

period of time by depressurization. These are collected in a canister. The claimed invention is essentially different from the headspace method. For this reason, in the claimed invention, it is very important to keep a sample contained in the sample vessel at a temperature at which the volatile constituents thereof do not evaporate.

The documents cited as prior art disclose only techniques relating to the headspace method. The newly cited document Krueger (USP 5,437,201) also relates to the headspace method and discloses nothing that suggests any distinctive technical features of the present invention. These features include keeping a sample contained in the sample vessel at a temperature at which the volatile constituents thereof do not evaporate.

The extracting methods and mechanism for making volatile constituents evaporate from a sample, based on the headspace method which the Examiner discussed, are irrelevant to the claimed invention. Even if all of the references cited by the Examiner are considered in combination, they teach a headspace method and not the method recited in the claims.

It would not be obvious to the skilled artisan in the sense of 35 U.S.C. § 103 to modify any one or all of the cited prior art in order to arrive at the claimed invention.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully

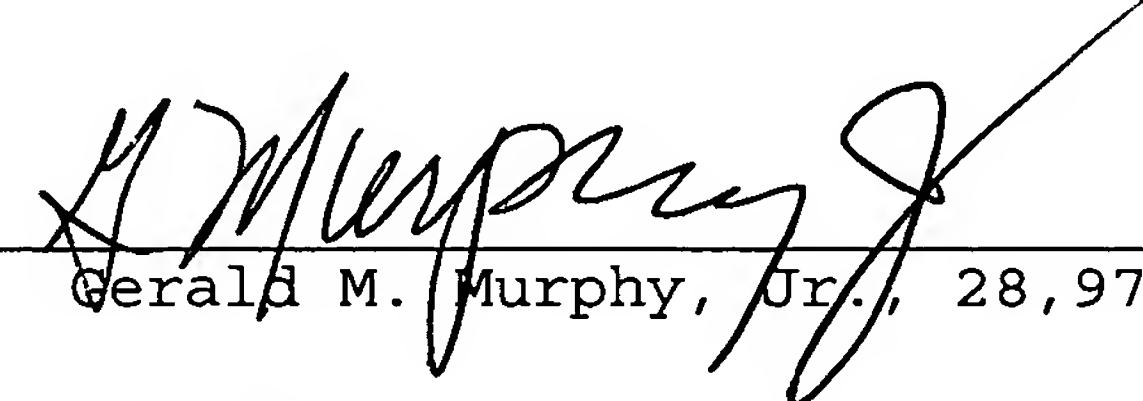
requested to contact David R. Murphy (Reg. 22,751) at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By:

  
Gerald M. Murphy, Jr., 28,977

GMM/DRM/jao/drm  
1131-0486P

P.O. Box 747  
Falls Church, VA 22040-0747  
703-205-8000